100
Healthcare Information System

FIG. 1

102 Client

108	112
User Interface	Order Entry Processor

110

Memory
(Patient database, Software)

Network 106

104 Server

116

118

Message Processor

120

Data Processor

124

Selection List Generation Engine

126

Clinical Model

Acquisition Processor

122

Memory

(Services Database Storing Order Sets & Document Templates)
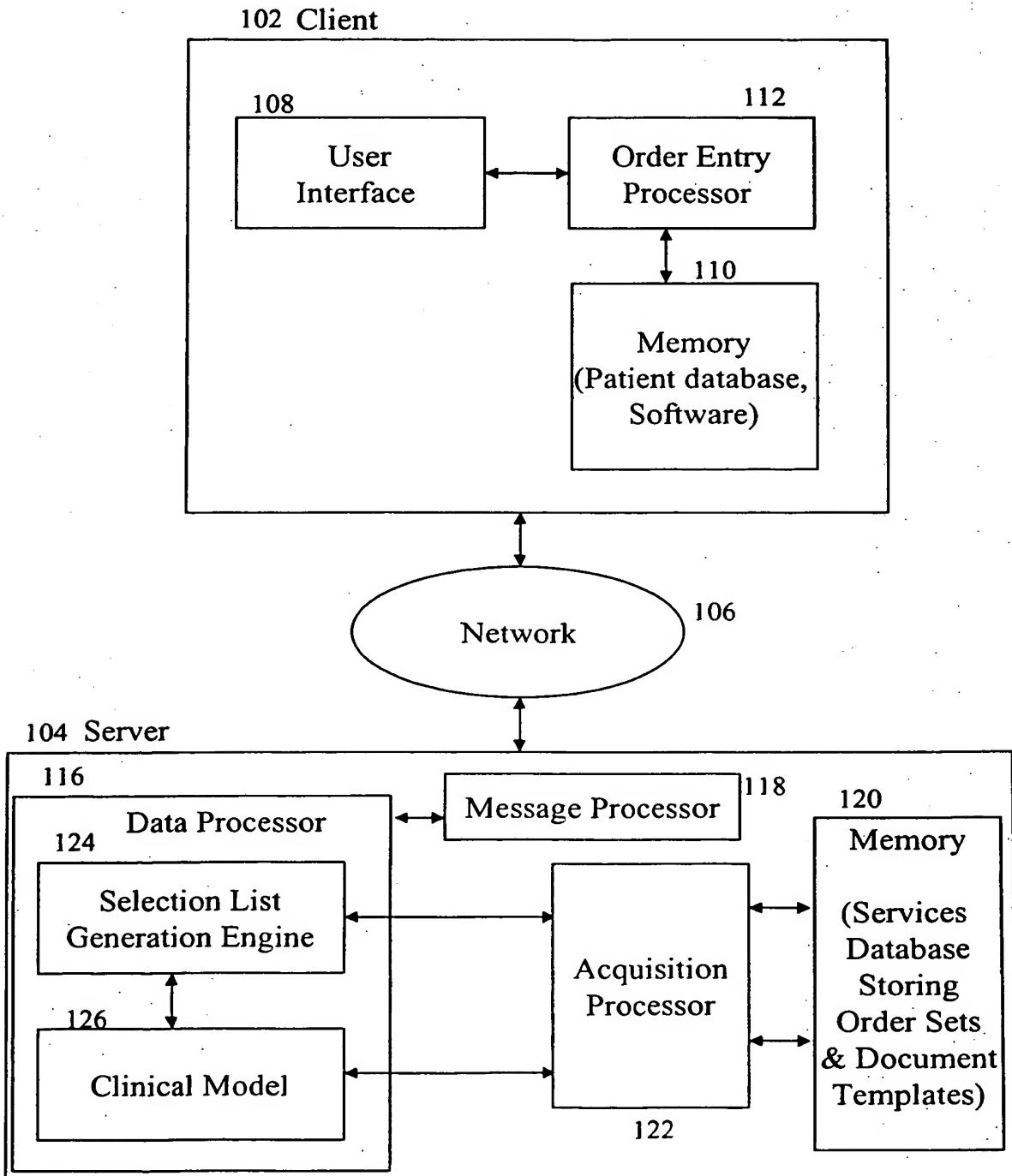
FIG. 2

200

Method for Analyzing Orders For
Healthcare Treatments and/or Services

201	202	203	204	205	206
1	**2**	**3**	**4**	**5**	**6**
Observed Orders from multiple patients (ie. Admitting orders)	Cluster Analysis	Observed Clusters	Manual validation of clusters and association with probable rationale	Observe changing memberships within clusters	Provide notification of changes for manual consideration

207

209   210   211   212

Orders Patient A
1. xxxxxxxxxxxx
2. wwwwwww
3. zzzzzzzzzz
4. aaaaaaaaaaa
5. bbbbbbbbbbb
6. cccccccccccc
7. dddddddddd

Orders Patient B
1. cccccccccccc
2. iiiiiiiiiiiiiiiiiii
3. zzzzzzzzzz
4. aaaaaaaaaaa
5. hhhhhhhhhhhh
6. qqqqqqqqqqqq
7. dddddddddd

208

Aggregated Database

Orders Patient A
1. xxxxxxxxxxxx
2. rrrrrrrrrrrm
3. nnnnnnnnnnnn
4. pppppppppppp
5. bbbbbbbbbbb
6. cccccccccccc
7. yyyyyyyyy

209	210	211	212
	Acute Hypoxia	Acute Hypoxia	Acute Hypoxia
aaaaaaaaaaa cccccccccccc dddddddddddd	aaaaaaaaaaa cccccccccccc dddddddddddd	aaaaaaaaaaa cccccccccccc dddddddddddd eeeeeeeeee	add: eeeeeeeeee
	Potential MI	Potential MI	Potential MI
xxxxxxxxxxxx yyyyyyyyyyyy	xxxxxxxxxxxx yyyyyyyyyyyy	xxxxxxxxxxxx wwwwwwwww	remove: yyyyyyyyyyyy add: wwwwwwwww

FIG. 3

300
Ordering frequency distribution
for any single clinical problem

301   302   303

| Uncommon Patient Circumstances | Standard Practice | Uncommon Physican Practices |

Practice Variation
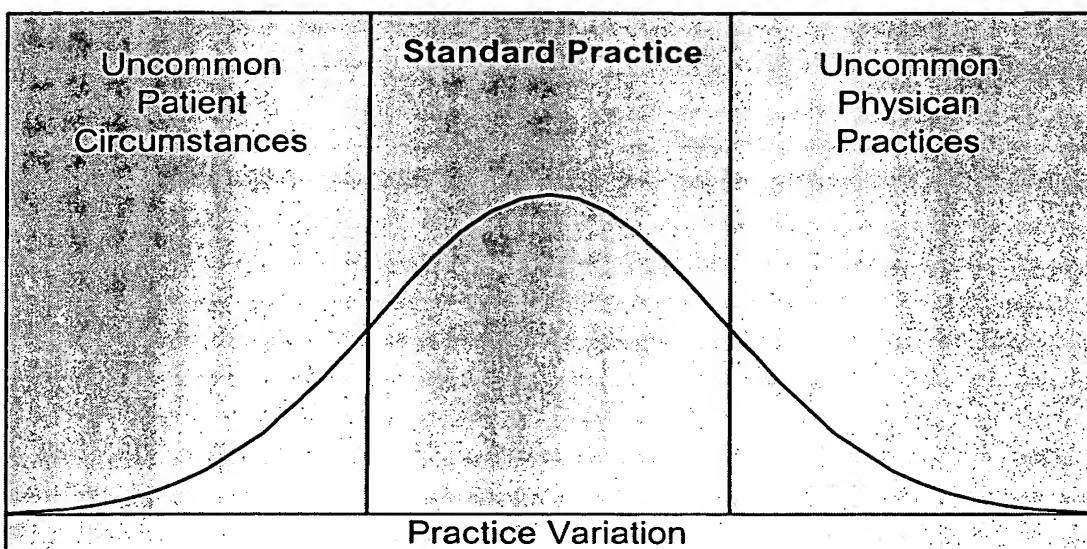
FIG. 4

Cluster of Multiple Clinical
Problems for a Patient
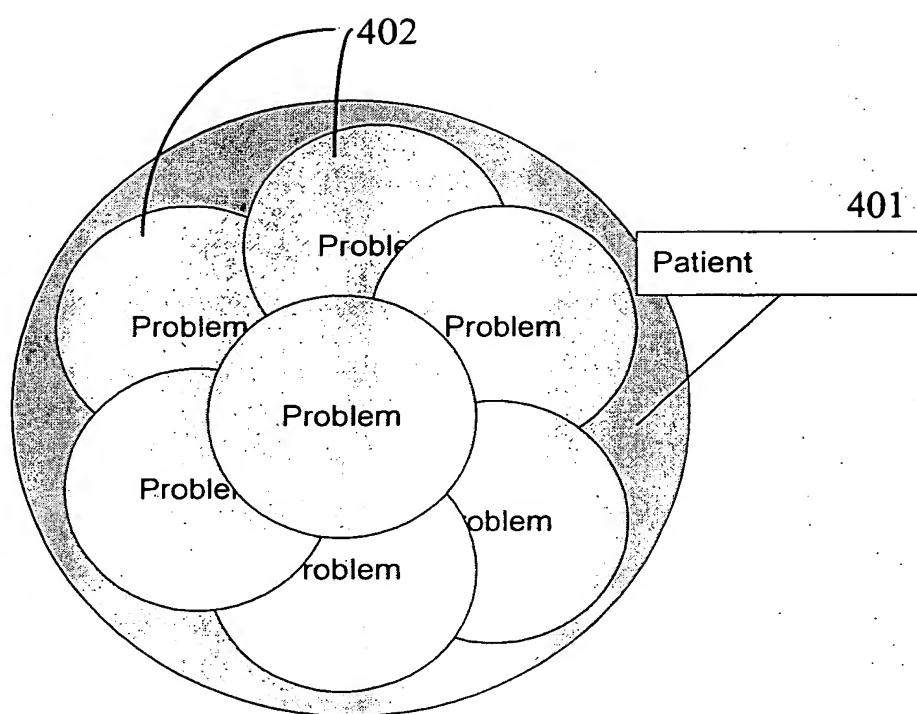
500
Patent's Needs Corresponding
to Patient's Problems

FIG. 6
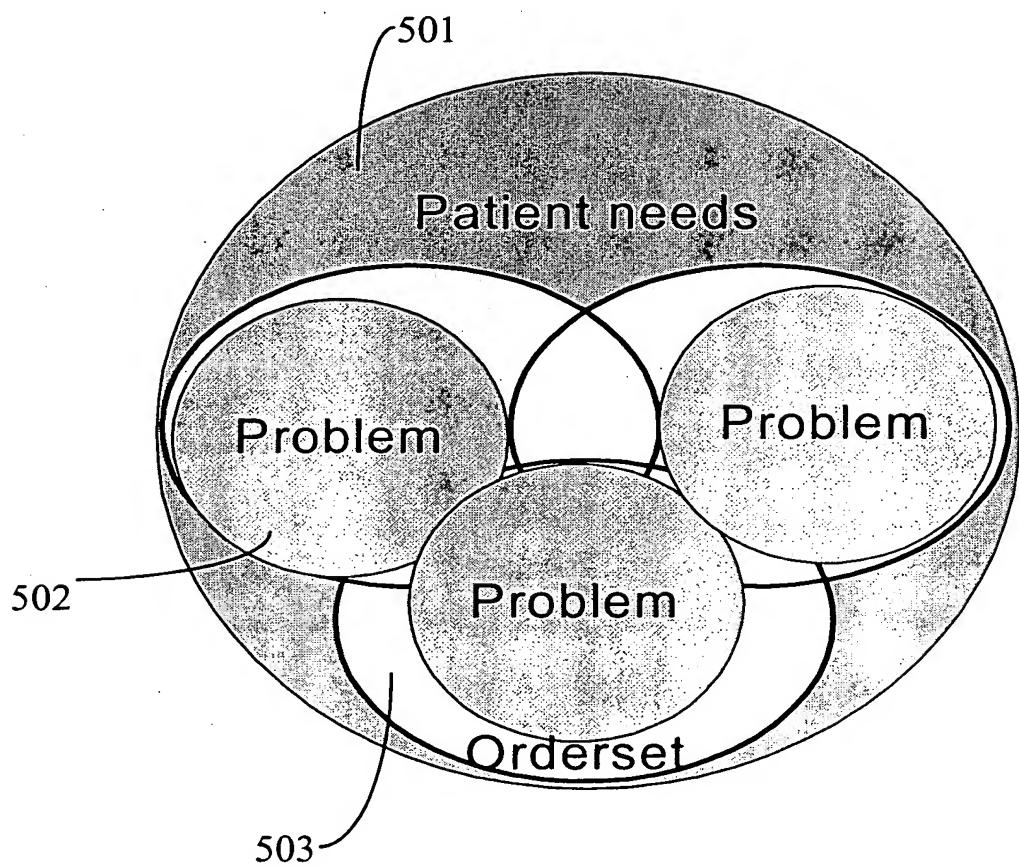
600
Frequency Distribution of Unique
Combinations
Of Specific Individual Orders

602

601
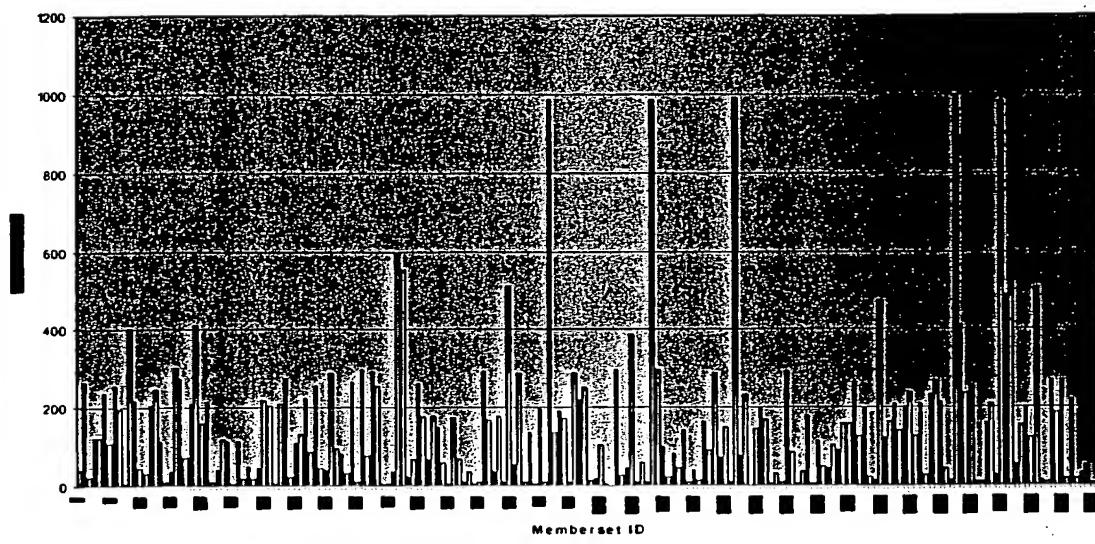
FIG. 7

Frequency Distribution of a First Order
In a First Member Set

Ordersets containing O2 2 L NC
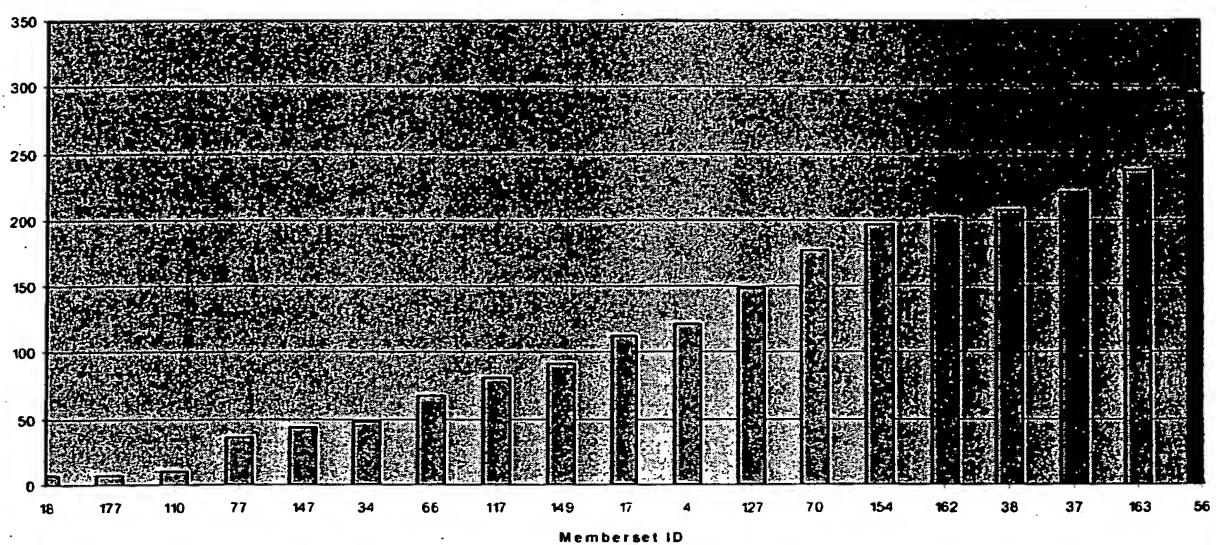
701

800
Frequency Distribution in a
Second Order in a Second Member Set

FIG. 8

Ordersets containing Pulse Oximetry

802

801
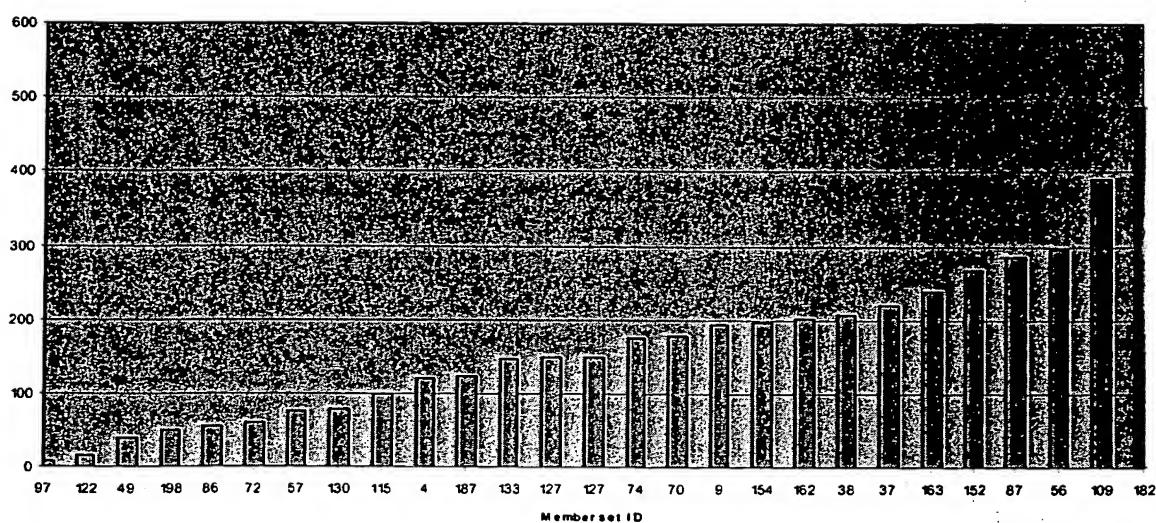
900
Membership of Each Order Clustered
With a Member Set of Optimal Size

901

901